Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claim 1 (currently amended). A combination reaction product of at least two chemical compounds, each one of these chemical compounds comprising:

a) a chemical moiety which may be the same or different among the chemical compounds of the reaction product;

b) an oligonucleotide or functional analogue thereof, comprising

i) at least one self-assembly moiety which is capable of binding to a self-assembly moiety of another one of the at least two chemical compounds; and

ii) a coding sequence unique to the chemical moiety of the compound to which it is attached;

wherein the at least two chemical compounds are bound to each other by their respective self-assembly moieties, **characterized in that the self assembling moiety of each chemical compound is an oligonucleotide or functional analogue thereof which is capable of binding to an oligonucleotide self-assembling moiety of another one of the at least two chemical compounds.**

Claim 2 (cancelled).

Claim 3 (previously presented). The combination reaction product of claim 1, characterized in that the at least two chemical compounds each comprise a chemical group, which may be the same or different, and which is capable of covalently linking the chemical compounds together after the stable combination reaction product is formed.

Claim 4 (previously presented). The combination reaction product of claim 1, characterized in that the oligonucleotideor functional analogue thereof of each chemical compound is covalently and directly linked to the chemical moiety of that chemical compound.

Claim 5 (cancelled).

Claim 6 (previously presented). The combination reaction product of claim 1, characterized in that the coding sequence of each chemical compound is situated between the chemical moiety and the self-assembly sequence of that chemical compound.

Claim 7 (previously presented). The combination reaction product of claim 1, characterized in that it is a dimer, trimer or tetramer of the at least two chemical compounds.

Claim 8 (previously presented). A chemical library comprising a plurality of combination reaction products according to claim 1.

Claim 9 (cancelled).

Claim 10 (previously presented). The chemical library of claim 8, characterized in that the at least two chemical compounds each comprise a chemical group which may be the same or different, and which is capable of covalently linking the chemical compounds together after the stable combination reaction product is formed.

Claim 11 (cancelled).

Claim 12 (previously presented). The chemical library according to claim 8, characterized in that the members of the plurality comprise heteroduplexes, heterotriplexes or heteroquadruplexes of the self-assembly sequences.

Claims 13 to 17 (cancelled).

Claim 18 (currently amended). A method of biopanning ligands specific for target molecules, wherein a plurality of combination reaction products according to claim 1 is incubated with a target molecule and the chemical moieties associated with a combination reaction product that interacts with said target molecule are identified.

Claims 19 to 22 (cancelled).

Claim 23 (currently amended). The method of claim**18 [[19]],** characterized in that the chemical moieties are coupled as iodoacetamido- or **maleimido- ~~maleido~~**-derivatives to individual DNA oligonucleotides, which carry a thiol group at the 3' or 5' end.

Claims 24 to 29 (cancelled).

Claim 30 (previously presented). The method of claim 37, wherein said chemical compounds comprise heterotrimers or heterotetramers.

Claims 31 and 33 (cancelled).

Claim 34 (currently amended). The method of claim **18 [[19]],** wherein the individual chemical moieties, associated with combination reaction products that interact with said target molecule, are identified by generating and identifying unique PCR products utilizing primers complementary to either or both of said coding sequences, and self-assembly moieties.

Claim 35 (previously presented). The method of claim 34, wherein at least a portion of said coding sequence, or the functional analogue thereof, is situated internal to said self-assembly moiety in one of said chemical compounds and the corresponding internal region on the other chemical compound is occupied by abasic nucleotides.

Claim 36 (previously presented). The method of claim 34, wherein the sequences of the unique PCR products are identified by first digesting said products with a sequence specific endonuclease, followed by concatemerization and subcloning of said products into a suitable plasmid, and finally by directly sequencing the region of the recombinant plasmid harbouring said products.

Claim 37 (currently amended). The method of claim **18 [[19]]** wherein the individual chemical moieties, associated with combination reaction products that interact with said target molecule, are identified by hybridizing said coding sequences to complimentary oligonucleotides immobilized on one or more chips.

Claim 38 (previously presented). The method of claim 37, wherein identification of chemical moieties associated with combination reaction products that interact with said target molecule, is followed by at least one successive round of biopanning with libraries of combination reaction products consisting only of chemical compounds containing said identified chemical moieties.

Claim 39 (previously presented). The method of claim 38, characterized in that the binding condition(s) of the successive round(s) are increasingly more stringent and the possible combinations of the candidate chemical compounds are assembled individually or in smaller pools and assayed for binding to the target.

Claim 40 (new). The method of claim **37,** characterized in that the oligonucleotides of selected binding moieties is PCR amplified prior to chip hybridization.